

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Currently Amended) A computer-implemented method for determining customer service impact, comprising:

receiving customer line item orders, each having a requested completion date,  
wherein each customer line item is an individual customer requested product for purchase;  
scheduling a scheduled completion date for each item order;  
selecting at least one item order, each item order having a scheduled completion date;  
comparing the scheduled completion date with the requested completion date for each  
selected item order, wherein said comparing comprises:

generating a demand array of item orders;  
generating a supply array of manufacturing inventory;  
selecting an item order in the demand array;  
matching manufacturing inventory in the supply array with the selected item  
order; and,  
comparing the scheduled completion date of an item in the supply array with  
the requested completion date for the matched item in the demand array; and  
deriving by a computer a customer service measurement for each selected item order  
based on said comparing, the customer service measurement comprising a measurement of at  
least one of money and a combination of time and money.

2-3. (Canceled)

4. (Previously Presented) The method of claim 1 wherein said deriving comprises:  
deriving a customer service measurement for each item order based on said  
comparing, the customer service measurement comprising the value of the item order.

5. (Previously Presented) The method of claim 1 wherein said deriving comprises:  
deriving a customer service measurement for each item order based on said  
comparing, the customer service measurement comprising the amount of time difference  
between the requested completion date and a scheduled completion date multiplied by the  
value of the item order.
6. (Previously Presented) The method of claim 1 wherein said deriving comprises:  
deriving a customer service measurement for each item order based on said  
comparing, the customer service measurement comprising the amount of time difference  
between the requested completion date and a scheduled completion date multiplied by the  
value of the item order and multiplied by a predetermined interest rate.
7. (Previously Presented) The method of claim 1, further comprising:  
determining an overall customer service measurement based on the customer service  
measurement for each item order.
8. (Previously Presented) The method of claim 7 further comprising:  
reporting the overall customer service measurement as the overall customer service  
measurement for that scheduling operation.
9. (Previously Presented) The method of claim 7 further comprising:  
displaying the customer service measurement on a calendar showing the total  
customer service measurement for a predetermined time period.
10. (Previously Presented) The method of claim 7, further comprising repeating said  
receiving, scheduling, selecting, comparing, deriving, and determining for different schedules  
to determine the customer service impact of schedule changes.
11. (Previously Presented) The method of claim 1, further comprising:

determining a customer service measurement for a first customer and a second customer, based on the customer service measurement for each item order from each of the first and the second customers.

12. (Previously Presented) The method of claim 11 further comprising:

displaying the customer service measurement on a calendar showing the total customer service measurement for a predetermined time period.

13. (Previously Presented) The method of claim 11, further comprising repeating said receiving, scheduling, selecting, comparing and determining for different schedules to determine the customer service impact of schedule changes.

14. (Canceled)

15. (Previously Presented) The method of claim 1, wherein said generating a demand array comprises generating a demand array of unshipped customer line items.

16. (Previously Presented) The method of claim 1, wherein said generating a supply array comprises generating a supply array of at least one of inventory work orders and manufactured inventory.

17. (Previously Presented) The method of claim 1, further comprising:

identifying a subset of work orders having a customer service measurement greater than a predetermined threshold;

performing at least one of a utilization, contention, and material constraint inquiry on the subset of work orders.

18. (Previously Presented) The method of claim 17, further comprising:

identifying as a potential bottleneck a material or resource having the greatest result in the at least one of a utilization, contention, and material constraint inquiry.

19. (Previously Presented) A system for determining customer service impact, comprising:

a receiver for receiving customer line item orders, each having a requested completion date, wherein each customer line item is an individual customer requested product for purchase;

a scheduler for scheduling a scheduled completion date for each item order;

a selector for selecting at least one item order, each item order having a scheduled completion date;

a comparator for comparing the scheduled completion date with the requested completion date for the selected item orders, wherein the comparator further comprises:

a first generator for generating a demand array of item orders;

a second generator generating a supply array of manufacturing inventory;

a selector for selecting an item order in the demand array;

a matching subsystem for matching manufacturing inventory in the supply array with the selected item order;

a comparator for comparing the scheduled completion date of an item in the supply array with the requested completion date for the matched item in the demand array;  
and

a measurement subsystem for deriving a customer service measurement, the customer service measurement comprising at least one of money and a combination of time and money, for each selected item order based on the comparison.

20-21. (Canceled)

22. (Original) The system of claim 19 wherein the customer service measurement comprises the value of the item order.

23. (Original) The system of claim 19 wherein the customer service measurement comprises the amount of time difference between the requested completion date and a scheduled completion date multiplied by the value of the item order.
24. (Original) The system of claim 19 wherein the customer service measurement comprises the amount of time difference between the requested completion date and a scheduled completion date, multiplied by the value of the item order and multiplied by a predetermined interest rate.
25. (Original) The system of claim 19, further comprising a summer for determining an overall customer service measurement based on the customer service measurement for each item order.
26. (Original) The system of claim 19 further comprising a display for reporting the overall customer service measurement as the overall customer service measurement for that scheduling operation.
27. (Original) The system of claim 19 further comprising a display for displaying the customer service measurement on a calendar showing the total customer service measurement for a predetermined time period.
28. (Original) The system of claim 19 further comprising a display for displaying the customer service measurement of different schedules to determine the customer service impact of schedule changes.
29. (Original) The system of claim 19, further comprising a display for displaying a customer service measurement for a first customer relative to a second customer, based on the customer service measurement for each item order from each of the first and the second customers.

30. (Original) The system of claim 19 further comprising a display for displaying the customer service measurement on a calendar showing the total customer service measurement for a predetermined time period.

31. (Canceled)

32. (Previously Presented) The system of claim 19, wherein the first generator generates a demand array of unshipped customer line items.

33. (Previously Presented) The system of claim 19, wherein the second generator generates a supply array of at least one of inventory work orders and manufactured inventory.

34. (Previously Presented) A computer-implemented method for determining customer service impact, comprising:

receiving item orders having a requested completion date;

scheduling a scheduled completion date for each item order;

selecting at least one item order, each item order having a scheduled completion date;

comparing the scheduled completion date with the requested completion date for each selected item order, wherein said comparing comprises:

generating a demand array of item orders;

generating a supply array of manufacturing inventory;

selecting an item order in the demand array;

matching manufacturing inventory in the supply array with the selected item order; and,

comparing the scheduled completion date of an item in the supply array with the requested completion date for the matched item in the demand array; and

deriving a customer service measurement for each selected item order based on said comparing, the customer service measurement comprising the amount of time difference

between the requested completion date and a scheduled completion date multiplied by the value of the item order and multiplied by a predetermined interest rate.

35. (Previously Presented) A computer-implemented method for determining customer service impact, comprising:

- receiving item orders having a requested completion date;

- scheduling a scheduled completion date for each item order;

- selecting at least one item order, each item order having a scheduled completion date;

- comparing the scheduled completion date with the requested completion date for each selected item order, wherein said comparing comprises:

  - generating a demand array of item orders;

  - generating a supply array of manufacturing inventory;

  - selecting an item order in the demand array;

  - matching manufacturing inventory in the supply array with the selected item order; and,

  - comparing the scheduled completion date of an item in the supply array with the requested completion date for the matched item in the demand array; and

  - deriving a customer service measurement for each selected item order based on said comparing, the customer service measurement comprising a measurement of at least one of time and money;

  - identifying a subset of work orders having a customer service measurement greater than a predetermined threshold; and

  - performing at least one of a utilization, contention, and material constraint inquiry on the subset of work orders.

36. (Previously Presented) The method of claim 35, further comprising:

identifying as a potential bottleneck a material or resource having the greatest result in the at least one of a utilization, contention, and material constraint inquiry.

37. (Previously Presented) A system for determining customer service impact, comprising:

- a receiver for receiving item orders having a requested completion date;
- a scheduler for scheduling a scheduled completion date for each item order;
- a selector for selecting at least one item order, each item order having a scheduled completion date;

- a comparator for comparing the scheduled completion date with the requested completion date for the selected item orders, wherein the comparator further comprises:

- a first generator for generating a demand array of item orders;
  - a second generator generating a supply array of manufacturing inventory;
  - a selector for selecting an item order in the demand array;
  - a matching subsystem for matching manufacturing inventory in the supply array with the selected item order;

- a comparator for comparing the scheduled completion date of an item in the supply array with the requested completion date for the matched item in the demand array;
- and

- a measurement subsystem for deriving a customer service measurement, the customer service measurement comprising the amount of time difference between the requested completion date and a scheduled completion date, multiplied by the value of the item order and multiplied by a predetermined interest rate.

38. (Previously Presented) A system for determining customer service impact, comprising:



- a receiver for receiving item orders having a requested completion date;
- a scheduler for scheduling a scheduled completion date for each item order;
- a selector for selecting at least one item order, each item order having a scheduled completion date;

- a comparator for comparing the scheduled completion date with the requested completion date for the selected item orders, wherein the comparator further comprises:

- a first generator for generating a demand array of item orders;
  - a second generator generating a supply array of manufacturing inventory;
  - a selector for selecting an item order in the demand array;
  - a matching subsystem for matching manufacturing inventory in the supply array with the selected item order;

- a comparator for comparing the scheduled completion date of an item in the supply array with the requested completion date for the matched item in the demand array;

- a measurement subsystem for deriving a customer service measurement, the customer service measurement comprising at least one of time and money, for each selected item order based on the comparison;

- a selector for identifying a subset of work orders having a customer service measurement greater than a predetermined threshold; and

- a measurement subsystem for performing at least one of a utilization, contention, and material constraint inquiry on the subset of work orders.

39. (Previously Presented) The method of claim 38, further comprising:

- a selector for identifying as a potential bottleneck a material or resource having the greatest result in the at least one of a utilization, contention, and material constraint inquiry.

40. (Currently Amended) A computer-implemented method for determining customer service impact, comprising:

receiving customer line item orders, each having a requested completion date,  
wherein each customer line item is an individual customer requested product for purchase;  
scheduling a scheduled completion date for each line item order;  
selecting at least one line item order;  
comparing the scheduled completion date with the requested completion date for each selected line item order; and

deriving by a computer a customer service measurement for each selected line item order based on said comparing, the customer service measurement comprising a measurement of at least one of money and a combination of time and money.

41. (Previously Presented) The method of claim 40 wherein customer service measurement includes the amount of time difference between the requested completion date and the scheduled completion date multiplied by the value of the line item order.

42. (Previously Presented) The method of claim 40 wherein customer service measurement includes the amount of time difference between the requested completion date and a scheduled completion date multiplied by the value of the line item order and multiplied by a predetermined interest rate.

43. (Currently Amended) A computer-implemented method for determining customer service impact, comprising:

receiving customer line item orders, each having a requested completion date,  
wherein each customer line item is an individual customer requested product for purchase;  
scheduling a scheduled completion date for each line item order;  
selecting at least one line item order;

comparing the scheduled completion date with the requested completion date for each selected line item order;

deriving by a computer a customer service measurement for each selected line item order based on said comparing;

identifying a subset of line item orders having a customer service measurement greater than a predetermined threshold; and

performing at least one of a utilization, contention, and material limitation inquiry on the subset of line item orders to identify a cause of the customer service measurement being greater than the predetermined threshold.

44. (Previously Presented) The method of claim 43, wherein:

the utilization inquiry involves identifying resources having a highest load/capacity ratio during a specified time period;

the contention inquiry involves identifying resources allocated most frequently in scheduling; and

the material limitation inquiry involves identifying material items causing scheduling delay.

45. (Previously Presented) The method of claim 43, wherein an amount of contention in the contention inquiry is determined by the amount of time difference between when a resource was first attempted to be scheduled and when the resource was first able to be scheduled.

46. (Previously Presented) The method of claim 43, wherein an amount of material limitation in the material limitation inquiry is determined by the amount of time difference between when a material item was first attempted to be scheduled and when the material item was first able to be scheduled.

47. (Previously Presented) The method of claim 43, further comprising identifying a resource or material item, from results of the at least one of a utilization, contention, and material limitation inquiry, responsible for the customer service measurement being greater than the predetermined threshold.
48. (New) The method of claim 1, wherein the customer service measurement represents a value of a late item order, determined by multiplying a number of late item orders by a unit price per item order, then subtracting any commission and discount.
49. (New) The method of claim 1, wherein the customer service measurement represents a value-time late, determined by multiplying a time difference between the requested completion date and the scheduled completion date multiplied by a value of the item order.
50. (New) The method of claim 49, wherein the value of the item order is determined by multiplying a number of late item orders by a unit price per item order, then subtracting any commission and discount.
51. (New) The method of claim 7, further comprising:  
selecting one or more customers; and  
determining a customer service measurement for each of the selected customers based on the customer service measurement for each item order of the selected customer.
52. (New) A computer-implemented method for optimizing scheduling operation based on customer service impact, comprising:  
receiving customer line item orders, each having a requested completion date,  
wherein each customer line item is an individual customer requested product for purchase;  
selecting at least two scheduling operations from a list of predetermined scheduling operations;

scheduling a scheduled completion date for each item order based on each of the selected scheduling operations;

selecting at least one item order, each item order having scheduled completion dates determined by each of the selected scheduling operation;

comparing each of the scheduled completion dates with the requested completion date for each selected item order, wherein said comparing comprises:

generating a demand array of item orders;

generating a supply array of manufacturing inventory;

selecting an item order in the demand array;

matching manufacturing inventory in the supply array with the selected item order; and

comparing the scheduled completion date of an item in the supply array with the requested completion dates for the matched item in the demand array;

deriving by a computer a customer service measurement for each selected item order for each selected scheduling operation based on said comparing, the customer service measurement comprising a measurement of at least one of the value of time and money; and

determining an overall customer service measurement for each of the selected scheduling operation based on the customer service measurement for each item order.

53. (New) The method of claim 52 further comprising:

comparing the overall customer service measurement for each selected scheduling operation; and

determining the selected scheduling operation that produces the least overall customer service measurement.